

J. Sook Chung

Associate Professor of Comparative Molecular Endocrinology

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I. EDUCATION

- 1991 Ph.D. Department of Entomology, Texas A & M University
(Supervisor: Professor L. L. Keeley)
- 1981 M. Sc. Department of Zoology, Seoul National University, S. Korea
(Supervisor: Professor Wan-kyoo, Cho)
- 1979 B.Sc. Pusan National University, S. Korea

Professional Training

- 2013 Developmental Genetics, Biological Sciences, UMBC, Baltimore, USA
- 2010 Environmental Genomics, MDIBL, Maine, USA
- 1998 Molecular Biology, School of Biological Sciences, Liverpool University, UK
- 1996 Bioinformatics course, Biochemistry Department, Leeds University, UK
- 1994 NMR course, Chemistry Department, Birkbeck College, University of London, UK
- 1991-1994: Molecular immunology and protein engineering courses, Crystallography Department, Birkbeck College, University of London, UK

II. EMPLOYMENT

- 2012-present Associate professor, UMCES-IMET, Baltimore, MD
- 2010-2012 Assistant professor, UMCES-IMET, Baltimore, MD
- 2004-2010 Assistant professor, Center of Marine Biotechnology,
University of Maryland Biotechnology Institute, Baltimore, MD
- 1994-2003 Research Scientist, School of Biological Sciences, University of Wales, UK
- 1991-1994 Research Associate, Dept. of Biology, Birkbeck College, Univ. of London,
London, UK
- 1986-1991 Research Assistant, Dept. of Entomology, Texas A & M University,
College Station, TX

III. RESEARCH

A. AREAS OF PROFESSIONAL EXPERTISE

The overarching theme of my research is unraveling the endocrine and neuroendocrine mechanisms regulating the growth, molting, sex differentiation, and reproduction of decapod crustaceans (crabs, shrimps, crayfish, lobsters, etc). My research particularly focuses on the regulatory system controlling biological processes of molting, before and after ecdysis of the blue crab, sex differentiation, female ovarian development and shell hardening process at the cellular, tissue, and organismal levels. Primarily, I aim to localize, identify and characterize the

necessary hormones in order to study their mode of actions, receptor characterization and signal transduction. The specific research areas are as follows:

1. Hormonal regulation of the grow growth and molting
2. Hormonal control of sex differentiation, vitellogenesis, ovarian development, spermatogenesis and spawning
3. Hormonal regulation of shell hardening process
4. Stress and environmental physiology and endocrinology

B. RESEARCH FUNDING, Active* and Previous

2015: Crustacean metabolomics: Identification of potential growth and reproductive indicators for aquaculture using NMR and MS approaches: NIST-IMET fellowship grant, \$274,732

2015: The blue crab genome initiative, Maryland Sea Grant, \$9,999 (funded)

2015*: Improving management of deep-sea red crabs (*Chaceon quinque-dens*): Reproductive biology, maturity, and stock structure. NOAA-EPP, LMRCSC TAB, \$37,529 (total \$56,721) to UMCES-PI as B. Stevens at UMES PI)

2015-2020: CREST Center for Integrated Study of Coastal Ecosystem Processes and Dynamics in the Mid-Atlantic Region \$109,949.

2015-17: Advance our understanding of the molting process in the blue crab towards developing a technology for synchronization of molting. Gulf Coast Marine Research Facility Blue Crab Hatchery and Live Feed Facility, Co-PI (\$171,485), pending

2014-15: Improving management of deep-sea red crabs (*Chaceon quinque-dens*): Reproductive biology, maturity, and stock structure. NOAA-EPP, LMRCSC TAB, \$32,879 (total 58119) to UMCES-PI as B. Stevens at UMES PI)

2013-14: Improving management of deep-sea red crabs (*Chaceon quinque-dens*): Reproductive biology, maturity, and stock structure. NOAA-EPP, LMRCSC TAB, \$30,545 to UMCES-PI (B. Stevens at UMES PI)

2013: Blue crab larvae to Stratus (\$12,668)

2013-14: Establishing the management of living marine resources using molecular marine biotechnological approaches- Understanding the molecular endocrine mechanism regulating the growth of *Chionoecetes japonicus*: KIOST-IMET international collaborative project \$16,666 to USPI, (total \$ 33,332)/8 months)

2012-3: Understanding chronic impacts of dispersants and dispersed oil on molting, endocrine status and behavior of the blue crab larvae: inputs for recruitment and population models. CRRC funded (Co-PI, \$36,559)

2012-3: Examining the acute toxicity of field-collected oiled sediments from the Gulf-of Mexico to juvenile blue crabs (*Callinectes sapidus*), Co-PO \$18, 934, Stratus.

2012-6*: Functional roles of a novel crustacean female sex hormone in sex differentiation and developing female features of crustaceans. PI, NSF (\$630,527/ 4yrs)

2012-5: Uptake and effects of dispersed oil droplets and emulsified oil by estuarine crustaceans (blue crab and grass shrimp) in the Gulf of Mexico. Co-PI with Drs. D. Lee at SkIO and H. Perry at GCRL, EPA (\$139,393/500,000/ 2yrs)

- 2012: KORDI &UMCES-IMET collaborative project: “대게 *Chionoecetes opilio* 및 꽃게: An integrated research project of basic biology, hatchery technology, and the potential stock enhancements” with Dr. Dong Sung, Kim at Korean Ocean Research and Development Institute (KORDI) (30,000,000 won= \$28,000/one year)
- 2011-5: NSF-Center for Research Excellence in Science & Technology (CREST): Center for the Integrated Study of Coastal Ecosystem Processes and Dynamics in the Mid-Atlantic Region UMES. Collaborator of Dr. J. Pitula. (\$15,000/yr for 5 yrs)
- 2010-11: Determining critical stages of *Hematodinium sp.* infection, and measuring environmental and physiological stress impact on infection of the blue crab, *Callinectes sapidus*. PI, NOAA-EPP LMRCSC-TAB (\$21,964/\$37,415)
- 2009-10: Measuring environmental and physiological stress and its impact on the infection of the blue crab, *Callinectes sapidus* by *Hematodinium sp.* PI NOAA-EPP, LMRCSC-TAB (\$21,215/ \$43,741)
- 2009: Mount Desert Island Biological Laboratory, Maine: New Investigator Award Fellowship: awarded (\$15,800)
- 2008-2012: Endocrine and molecular manipulations of the crustacean molt to control growth and synchronize ecdysis, funded by Binational Agricultural Research and Development (\$144,000/\$288,000, US-PI)
- 2006-2007: The blue crab, *Callinectes sapidus*: an integrative research program of basic biology, hatchery technologies and the potential for replenishing stocks. NOAA, Chesapeake Bay Office. Renewed funding for Blue Crab Advanced Research Consortium (BCARC) 5,000,000 (\$247,700 to J. Sook Chung, co-PI)
- 2005-2006: The blue crab, *Callinectes sapidus*: an integrative research program of basic biology, hatchery technologies and the potential for replenishing stocks. NOAA, Chesapeake Bay Office Renewed funding for Blue Crab Advanced Research Consortium (BCARC) \$2,200,000 (\$100,700 to J. Sook Chung, co-PI)
- 2004-2005: The blue crab, *Callinectes sapidus*: an integrative research program of basic biology, hatchery technologies and the potential for replenishing stocks. NOAA, Chesapeake Bay Office Renewed funding for Blue Crab Advanced Research Consortium (BCARC) \$1,900,000 (\$98,000 to J. Sook Chung, co-PI)

C. SCIENTIFIC PUBLICATIONS: Peer-reviewed scientific journals

[*Indicates a graduate student co-author; ** an undergraduate student co-author]

61. Xiaoshuai Huang^{1,2}, Sun-Hye Bae¹, Tsvetan R. Bachvaroff¹, Eric J. Schott¹, Haihui Ye^{2,*}, **J. Sook Chung**^{1,*} (2016) Does a blue crab putative insulin-like peptide binding protein (ILPBP) play a role in a virus infection?" **Fish and Shellfish Immunol**
60. A. S. Vinagre and **J. Sook Chung** (2016) Effects of starvation on energy metabolism and crustacean hyperglycemic hormone (CHH) of the Atlantic ghost crab *Ocypode quadrata* (Fabricius, 1787). **Mar Biol** 163: 3 DOI 10.1007/s00227-015-2797-3 (IF: 2.39)
59. **J. Sook Chung**, J. S. Pitula, E. Schott, J. V. Alvarez, L. Maurer and K. Lycett (2015) Elevated water temperature induced viral replication in adult female blue crab, *Callinectes sapidus* and upregulation of selected innate immunity genes in hemocytes and hepatopancreas. **Fish and Shellfish Immunol** 47: 511-520

58. Javier Alvarez and **J. Sook Chung** (2015) The involvement of hemocyte prophenoloxylase in the shell-hardening process of the blue crab, *Callinectes sapidus*. **PLoS One**. 10 (9), e0136916
57. Chiara Manfrin, Edoardo Turolla, **J. Sook Chung**, Piero G. Giulianini (2015) First occurrence of *Callinectes sapidus* (Rathbun, 1896) within the Sacca di Goro (Italy) and surroundings. **J Biodiversity Data** 11 doi: <http://dx.doi.org/10.15560/11.3.1640>
56. S. Techa and **J. Sook Chung** (2015) Ecdysteroids regulate the levels of molt-inhibiting hormone (MIH) expression in the blue crab, *Callinectes sapidus*, **PLoS ONE** 10(4): e0117278. doi:10.1371/journal.pone.0117278
55. W. Thongda, **J. Sook Chung**, N. Tsutsui, N. Zmora, A. Katenta* (2015). Seasonal variation in the reproductive activity of the blue crab, *Callinectes sapidus*: vitellogenin expression and levels of vitellogenin in the hemolymph during ovarian development. **Comp Biochem Physiol -Molecular and Integrative Physiology A** 179: 35-43. *LMRCSC intern
54. **J. Sook Chung**, O.H. Yu, I. S. Ahn and D. S. Kim (2015) Crustacean hyperglycemic hormones of two cold water crab species, *Chionoecetes opilio* and *C. japonicus*: isolation of cDNA sequences and localization of CHH neuropeptide in eyestalk ganglia. **Gen Comp Endocrinol** 214: 177-185.
53. Moshe Tom^a, Chiara Manfrin^b, **J. Sook Chung**^d, Amir Sagi^c, Marco Gerdol^b, Gianluca De Moro^b, Alberto Pallavicini^b, Piero G. Giulianini^b (2014) Expression of cytoskeletal and molt-related genes is temporally scheduled in the hypodermis of the crayfish *Procambarus clarkii* during premolt. **J Exp Biol** 217, 4193-4202.
52. Sirinart Techa, Javier V. Alvarez and **J. Sook Chung** (2014) Changes in ecdysteroid levels and expression patterns of ecdysteroids-responsive factors and neuropeptide hormones during the embryogenesis of the blue crab, *Callinectes sapidus*. **Gen Comp Endocrinol** 214: 157-166.
51. **J. Sook Chung** (2014) An insulin-like growth factor found in hepatopancreas implicates carbohydrate metabolism of the blue crab *Callinectes sapidus*. **Gen Comp Endocrinol** 199: 56-64.
50. Q. Shi and **J. Sook Chung** (2014) Functional dimorphism of trehalose metabolism in the blue crab *Callinectes sapidus*: cloning of trehalose-6-phosphate synthase and expression in muscles. **Gene** 536: 105-113. (IF: 2.2; 8)
49. N. Zmora, and **J. Sook Chung** (2014) A novel hormone is required for the development of reproductive phenotypes in adult female crabs. **Endocrinology** 155:230-239.
Highlighted in Science (2014) 343, p7
Highlighted in Endocrinology (2014) 155(1), pp. 10–11
48. J. Alvarez and **J. Sook Chung** (2013) Cloning of prophenoloxidase from hemocytes of the blue crab, *Callinectes sapidus* and its expression and enzyme activity during the molt cycle. **Fish Shellfish Immunol** 35: 1349-1358. (IF: 3.04,)
47. S. Techa and **J. Sook Chung** (2013). Ecdysone and retinoid-X receptors of the blue crab, *Callinectes sapidus*: cloning and temporal expression patterns in eyestalks and Y-organs during the molt cycle. **Gene** 527:139-153 (IF: 2.2; 16)

46. **J. Sook Chung**, H. Katayama and H. Dirksen (2012). New functions of arthropod bursicon in the deposition and thickening of new cuticle and haemocyte granulation in the blue crab, *Callinectes sapidus*. **PLoS ONE** <http://dx.plos.org/10.1371/journal.pone.0046299> (IF: 3.73; 9)
45. **J. Sook Chung**, L. Maurer*, M. Bratcher*, J. S. Pitula, and M. B. Ogburn (2012) Cloning of aquaporin-1 of the blue crab, *Callinectes sapidus*: its expression during the larval development in hyposalinity. **Aquatic Biosystems** 8:21
- * Undergraduate interns
44. Ramachandra Reddy Pamuru, Rivka Manor, **J. Sook Chung**, Nili Zmora, Lilah Glazer, Eliahu D. Aflalo, Simy Weil, Ohad Rosen and Amir Sagi (2012). Stimulation of molt by RNA interference of the molt-inhibiting hormone in the crayfish *Cherax quadricarinatus*. **Gen Comp Endocrinol** 17: 227-236. (IF: 3.018; 11)
43. Tsutsui, N. and **J. Sook Chung** (2012). A novel putative lipoprotein receptor (*CasLpR*) in the hemocytes of the blue crab, *Callinectes sapidus*: cloning and up-regulated expression in the hemocytes after immune challenge. **Fish Shellfish Immunol** 32: 469-475 (IF: 3.04)
42. **J. Sook Chung**, T. R. Bachvaroff, A. Place and J. Trant (2012). A second copper zinc superoxide dismutase (CuZnSOD) in the blue crab *Callinectes sapidus*: cloning and up-regulated expression in the hemocytes after immune challenge. **Fish Shellfish Immunol** 32: 16-25 (IF: 3.04, 16)
41. **J. Sook Chung**, R. Manor, and A. Sagi (2011). Molecular cloning of the full length cDNA encoding an insulin-like androgenic gland factor (*IAG*) from the androgenic gland of adult male blue crab, *Callinectes sapidus*: an implication eyestalk neuropeptide(s) involvement of *IAG* expression. **Gen Comp Endocrinol** 173: 4-10. (IF: 3.018; 31)
40. H. Piontkivska, **J. Sook Chung**, A. V. Ivanina, E. P. Sokolov, S. Techa, and I. M. Sokolova (2011). Molecular characterization and mRNA expression of two key enzymes of hypoxia-sensing pathways in eastern oysters *Crassostrea virginica* (Gmelin): Hypoxia-inducible factor 1 α (HIF-1 α) and HIF-prolyl hydroxylase 2 (PHD2). **Comp Biochem Physiol Part D: Genomics and Proteomics** 6: 103-114. (IF: 2.07; 6)
39. K. Costello, **J. S. Chung**, S. Skarke, P. H. Lenz, and C. H. Wilson (2010). Identification of a voltage-gated sodium ion channel gene in the copepods *Calanus finmarchicus*, *Bestiolina similis*, *Undinula vulgaris*, and *Parvocalanus crassirostris*. **MDIBL Bulletin** 37-39.
38. **J. Sook Chung**, N. Zmora, N. Tsutsui, and H. Katayama (2010). Crustacean hyperglycemic hormone (CHH) neuropeptides family: function, titer, and binding to target tissues. **Gen Comp Endocrinol** 166: 447-454. (IF:3.018; 41)
37. A. V. Ivanina*, S. Eilers, **J. Sook Chung**, S. Techa, I.O. Kurochkin, H. Piontkivska, E. P. Sokolov, and I. M. Sokolova (2010). Effects of cadmium exposure and intermittent anoxia on nitric oxide metabolism in eastern oysters *Crassostrea virginica*. **J Exp Biol** 213: 433-444. (IF: 3.04; 11)
36. Ziv Roth, Shmuel Parnes, Simy Wiel, Amir Sagi, Nili Zmora, **J. Sook Chung** and Isam Khalaila (2010). N- glycan moieties of the crustacean egg yolk protein and their glycosylation sites. **Glycoconju J** 27: 159-169. (IF:2.7; 9)

35. **J. Sook Chung** (2010). Hemolymph ecdysteroids during the last three molt cycles of the blue crab, *Callinectes sapidus*: quantitative and qualitative analyses and regulation. **Arch Insect Biochem Physiol** 73: 1-13. (IF:1.5; 10)
34. N. Zmora, J. T. Trant, Y. Zohar, and **J. Sook Chung** (2009). Molt-inhibiting hormone stimulates vitellogenesis at the advanced ovarian development in the blue crab, *Callinectes sapidus* 1: an ovarian stage dependent involvement. **Saline Systems** 5: 7. (IF:2.6; 13)
33. N. Zmora, A. Sagi, Y. Zohar, and **J. Sook Chung** (2009). Molt-inhibiting hormone stimulates vitellogenesis at the advanced ovarian development in the blue crab, *Callinectes sapidus* 2: novel specific binding sites in hepatopancreas and cAMP as a second messenger. **Saline Systems** 5: 6. (IF:2.6; 22)
32. **J. Sook Chung**, S. Bembe, S. Tamone, E. Andrews* and H. Thomas* (2009). Molecular cloning of the crustacean hyperglycemic hormone (CHH) from the X-organ and identification of the neuropeptide in the sinus glands of the Alaskan Tanner crab, *Chionoecetes bairdi*. **Gen Comp Endocrinol** 162: 129-133. (IF:3.018; 10): *LMRCS interns
31. H. Katayama and **J. Sook Chung** (2009). The specific binding sites of eyestalk- and pericardial organ-crustacean hyperglycaemic hormones (CHHs) in multiple tissues of the blue crab, *Callinectes sapidus*. **J Exp Biol** 312: 542-549. (IF: 3.04; 9)
30. **J. Sook Chung** (2008). A trehalose 6-phosphate synthase gene of the hemocytes of the blue crab, *Callinectes sapidus*: the molecular structure, the expression, its enzyme activity and relationship to hemolymph trehalose levels. **Saline Systems** 4: 18. (IF:2.6; 20)
29. **J. Sook Chung** and S.G. Webster (2008). Angiotensin-converting enzyme (ACE) like activity in crab gills and its putative role in degradation of crustacean hyperglycemic hormone (CHH). **Arch Insect Biochem Physiol** 68: 171-180. (IF:1.5; 5)
28. **J. Sook Chung** and N. Zmora (2008). Functional studies of crustacean hyperglycemic hormones (CHHs) of the blue crab, *Callinectes sapidus*: the expression and release of CHH in eyestalk and pericardial organ in response to environmental stress. **FEBS J** 275: 693-704. (IF: 3.99; 40)
27. Y. Zohar, A. H. Hines, O. Zmora, E. G. Johnson, R.N. Lipcius, R. D. Seitz, D. B. Eggleston, A. R. Place, E. Schott, J. Stubblefield and **J. Sook Chung** (2008). The Chesapeake Bay blue crab (*Callinectes sapidus*): A multidisciplinary approach to responsible stock enhancement. **Rev Fish Sci** 16, 1-11. (IF: 2.16; 31)
26. A. L. Drexler, C.C. Harris, M. G. Dela Pena, M. Asuncion-Uchi, **J. S. Chung**, S. Webster, and M. Fuse (2007). Molecular characterization and cell-specific expression of an ion transport peptide in the tobacco hornworm, *Manduca sexta*. **Cell Tissue Res** 329: 391-408. (IF 3.33; 14)
25. N. Zmora, J. Trant, S. M. Chen and **J. Sook Chung** (2007). Vitellogenin and its Messenger RNA during ovarian development in the female blue crab, *Callinectes sapidus*: gene expression, synthesis, transport, and cleavage. **Biol Reprod** 77: 138-146. (IF: 4.01; 35)
24. **J. Sook Chung***, D.C. Wilcockson, N. Zmora, Y. Zohar, H. Dirksen, and S.G. Webster (2006). Identification and developmental expression of mRNAs encoding crustacean cardioactive peptide (CCAP) in decapod crustaceans. **J Exp Biol** 209: 3862-3872. (IF: 3.04; 28)

23. Y.W. Hsu, D.I. Messinger, **J. Sook Chung**, S. G. Webster, H. O. de la Iglesia, and A. E. Christie (2006). Members of the crustacean hyperglycemic hormone (CHH) peptide family are differentially distributed both between and within the neuroendocrine organs of *Cancer* crabs: implications for differential release and pleiotropic function. **J Exp Biol** 209: 3241-3256. (IF: 3.04; 20)
 22. **J. Sook Chung** and S. G. Webster (2006). Binding sites of crustacean hyperglycaemic hormone and its second messengers on gills and hindgut of the green shore crab, *Carcinus maenas*. **Gen Comp Endocrinol** 147: 206-213. (IF: 3.02; 29)
 21. **J. Sook Chung** and S. G. Webster (2005). Dynamics of *in vivo* release of molt-inhibiting hormone (MIH) and crustacean hyperglycemic hormone (CHH) in the shore crab, *Carcinus maenas*. **Endocrinology** 146: 5545-5551. (IF: 4.88; 65)
- *This work has been featured in Endocrine News Nov. 2005 p. 5**
20. **J. Sook Chung** and S. G. Webster (2004). Expression and release patterns of neuropeptides during embryonic development and hatching of the green shore crab, *Carcinus maenas*. **Development** 131: 4751-4761. (IF: 6.6; 29)
 19. **J. Sook Chung** and S. G. Webster (2003). Moulting cycle-related changes in biological activity of moulting-inhibiting hormone (MIH) and crustacean hyperglycaemic hormone (CHH) in the crab, *Carcinus maenas*: From target to transcript. **Eur J Biochem** 270: 3280-3288. (IF: 3.58; 99)
 18. D. C. Wilkerson, **J. Sook Chung** and S. G. Webster (2002). [Is crustacean hyperglycaemic hormone precursor-related peptide a circulating neurohormone in crabs?](#) **Cell Tissue Res** 307: 129-138. (IF: 3.33; 31)
 17. H. Dirksen, D. Bocking, U. Heyn, C. Mandel, **J. S. Chung**, G. Baggerman, P. Verhaert, S. Daufeldt, T. Plosch, P. P. Jaros, E. Eaelkens, R. Keller and S. G. Webster (2001). Crustacean hyperglycaemic hormone (CHH)-like peptides and CHH-precursor-related peptides from pericardial organ neurosecretory cells in the shore crab, *Carcinus maenas*, are putatively spliced and modified products of multiple genes. **Biochem J** 356: 159-170. (IF: 5.016; 109)
 16. S. G. Webster, H. Dirksen and **J. S. Chung** (2000). Endocrine cells in the gut of the shore crab, *Carcinus maenas*, immunoreactive to crustacean hyperglycemic hormone and its precursor-related peptide. **Cell Tissue Res** 300: 193-205. (IF: 3.33; 52)
 15. M. K. Phlippen, S. G. Webster, **J. S. Chung** and H. Dirksen (2000). Ecdysis of decapod crustaceans is associated with dramatic release of crustacean cardioactive peptide into the haemolymph. **J Exp Biol** 203: 521-536. (IF: 3.04; 60)
 14. **J. S. Chung**, H. Dirksen, and S. G. Webster (1999). A remarkable, precisely timed release of hyperglycemic hormone from endocrine cells in the gut is associated with ecdysis in the crab *Carcinus maenas*. **Proc Natl Acad Sci USA**, 96: 13103-13107. (IF: 9.77; 148)
- This work has been featured 1) in the UK NATURAL ENVIRONMENT RESEARCH COUNCIL News Spring, p16-17, 'How crabs moult' and 2) BioScience (2000) January issue 'Researchers shed light on molting in crustaceans'.**
13. **J. S. Chung**, M.C. Wilkinson, and S.G. Webster (1998). Amino acid sequences of both isoforms of crustacean hyperglycaemic hormones (CHH) and corresponding precursor-related peptide in *Cancer pagurus*: The complete inventory of CHH family neuropeptides now identified in a crab. **Reg Peptides** 77: 17-24. (IF: 2.01; 57)

12. **J. S. Chung** and S.G. Webster (1996). Does the N-terminal pyroglutamate residue have any physiological significance for crab hyperglycaemic neuropeptides? **Eur J Biochem** 240: 358-364. (IF: 3.58; 58)
11. G. Wainwright, S.G. Webster, M. C. Wilkinson, **J. S. Chung** and H. H. Rees (1996) Structure and function of mandibular organ-inhibiting hormone (MOIH) in the crab, *Cancer pagurus*; evidence for complex control of growth and reproduction. **J Biol Chem** 271: 12749-12754.(IF: 5.318; 142)
10. **J. S. Chung**, M. C. Wilkinson and S. G. Webster (1996) Determination of the amino acid sequence of the moult-inhibiting hormone (MIH) from the edible crab, *Cancer pagurus*. **Neuropeptides** 30: 95-101. (IF: 2.55; 53)

Insect research published in Peer-reviewed scientific journals

9. G. J. Goldsworthy, **J. Sook Chung**, M. S. J. Simmonds, M. Tatari, S. Varouni and C.P. Poulos. (2003) The synthesis of an analogue of the locust CRF-like diuretic peptide, and the biological activities of this and some C-terminal fragments. **Peptides** 24: 1607-1613. (IF: 2.654; 16)
8. C.A. Roberts, R.J. Nachman, G. M. Coast, **J. S. Chung**, G. M. Holman, M. Hariharan and J.A. Tainer (1997). Consensus chemistry and β -turn conformation of the active core of the myotropic/diuretic insect kinin neuropeptide family. **Chemistry and Biology** 4: 105-117. (IF: 6.6; 49)
7. **J. S. Chung**, C. H. Wheeler, G. J. Goldsworthy and G. M. Coast (1995). [Properties of acetakinin binding sites on Malpighian tubule membranes from the house cricket, *Acheta domesticus*](#). **Peptides** 16: 375-382. (IF: 2.654; 12)
6. F. L. Clottens, G. M. Holman, G. M. Coast, N. F. Totty, T. K. Hayes, I. Kay, A. I. Mallet, M. S. Wright, **J. S. Chung**, O. Truong and D. L. Bull (1994). Isolation and characterisation of a diuretic peptide common to the house fly and stable fly. **Peptides** 15: 971-979. (IF: 2.654; 56)
5. **J. S. Chung**, G. J. Goldsworthy and G. M. Coast (1994). Haemolymph and tissue titres of acetakinins in the house cricket, *Acheta domesticus*: effect of starvation and dehydration. **J Exp Biol** 193: 307-319.(IF: 3.04; 29)
4. M. Patel, **J. S. Chung**, I. Kay, A. I. Mallet, C. R. Gibbon, K. S. J. Thompson, J. P Bacon and G. M. Coast (1994). Localisation of *Locusta*-DP in locust CNS and haemolymph satisfies initial hormonal criteria. **Peptides** 15: 591-602. (IF: 2.654; 61)
3. L. L. Keeley, **J. S. Chung** and T. K. Hayes (1992). Diuretic and antifeedant actions by *Manduca sexta* diuretic hormone in lepidopteran larvae. **Cellular and Molecular Life Sciences**, 48: 1145-1148.(IF: 6.57; 15)
2. G. M. Coast, I. Kay, T. K. Hayes and **J. S. Chung** (1992). Effect of *Manduca sexta* diuretic hormone and related peptides on isolated Malpighian tubules of the house cricket, *Acheta domesticus*. **J Exp Biol** 162: 331-338. (IF: 3.04; 22)
1. **J. S. Chung** and L. L. Keeley (1989). Evidence and bioassay for diuretic factors in the tobacco budworm, *Heliothis virescens* (F.). **J Comp Physiol** B 159: 359-370. (IF: 2.4; 10)

D. Conference proceedings and book chapter

1. [Chiara Manfrin](#), [Luca Peruzza](#), **J Sook Chung**, [Federica Piazza](#), [Alberto Pallavicini](#), [Piero Giulio Giulianini](#) (2014) Autocidal control on *Procambarus clarkii*. 8th International Crustacean Congress (ICC-8), Frankfurt am Main, Germany
2. S.G. Webster and **J. S. Chung** (1999). Roles of moult-inhibiting hormone and crustacean hyperglycemic hormone in controlling moulting in Decapod Crustaceans. In: Recent Developments in Comparative Endocrinology and Neurobiology (Eds Roubos, E.W., Bonga, S.E.W., Vaudry, H. and De Loof A.), pp.213-216, Shaker, Maastricht.
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